

MATERIAL DATA SHEET: 420 SS BJ

Material	Composition
Stainless Steel Alloy 420	Stainless Steel 420 60 % Bronze 40 %

Material Properties		Test Method
Tensile Strength		ASTM E8
Ultimate Strength	682 Mpa	
Yield Strength (0.2% offset)	455 Mpa	
Elastic Modulus	147 Gpa	
Elongation	2.3 %	
Poisson's ratio	0.3%	
Hardness	97 HRB	ASTM E18
Fractional Density	95%	MPIF 42
Density	7.9 g/cm ³	
Machinability	Conventionally machinable	
Weldability	Silicone bronze rod & TIG weld	
Thermal conductivity	22.6 W/m ² K	ASTM E1530
Specific Heat	478 J/kg ^o K	ASTM E1263
Thermal Expansion Coefficient	13.4 x 10 ⁻⁶ / ^o K	ASTM E228

Design Guidelines			
Maximum printable size X x Y x Z	760x390x390 mm	Minimum wall tickness	0.8-1 mm
Construction support required	No	Layer tickness	100 μm
Minimum size details	0.8 mm	Corner radius	0.25 mm
Interlocking parts	No	Minimum space assembly	0.5 mm
Enclosed parts	No	Shrinkage	2-3 %